Amendments to the Claims:

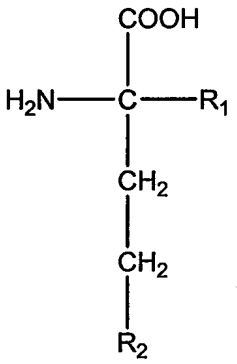
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-4. (CANCELLED)

5. (CURRENTLY AMENDED) A method for treating, palliating or inhibiting mycobacterial infections in a mammal by inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in said mammal, said method comprising the steps of:

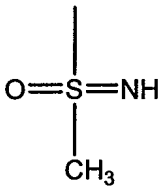
administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising a mycobacterial glutamine synthetase (MbGS) inhibitor of Formula 1;



Formula 1

wherein

R_1 = branched and straight chain alkyl groups of 1 to 8 carbons; and

R_2 =  [[(]]Methyl ~~Sulfoximine)~~sulfoximine; and

inhibiting mycobacterial glutamine synthetase to a greater degree than mammalian glutamine synthetase and wherein gamma-glutamylcysteine synthetase or glutathione synthesis are not substantially inhibited ~~the growth of a Mycobacteria species without causing substantial toxic side effects in said mammal~~;

wherein said mycobacterial infection is treated, palliated or inhibited.

6. (CANCELED)

7. (PREVIOUSLY PRESENTED) The method for treating mycobacterial infections in a mammal according to claim 5 wherein R_1 comprises branched and straight-chained alkyl groups from 2 to 4 carbons.

8-9. (CANCELED)

10. (PREVIOUSLY PRESENTED) A method for treating, palliating or inhibiting mycobacterial infections in a mammal by inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in said mammal, said method comprising the steps of:

administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising alpha-methyl-DL-methionine-SR-sulfoximine or alpha-ethyl-DL-methionine-SR-sulfoximine; and

inhibiting the growth of a Mycobacteria species without causing substantial toxic side effects in said mammal.

11. (PREVIOUSLY PRESENTED) The method according to claims 5 or 10 further comprising co-administering an anti-microbial effective amount of isoniazid (INH).

12. (PREVIOUSLY PRESENTED) The method for treating, palliating or inhibiting mycobacterial infections in a mammal according to claims 5 or 10 wherein said mammal is selected from the group consisting of humans, monkeys, cows, pigs, horses, rabbits, rodents, cats and dogs.

13. (PREVIOUSLY PRESENTED) The method for treating, palliating or inhibiting mycobacterial infections in a mammal according to claims 5 or 10 wherein said

mycobacterial infection is caused by a member of the genus Mycobacterium selected from the group consisting of *M. tuberculosis*, *M. bovis*, *M. avium*.

14. (CANCELED)

15. (PREVIOUSLY PRESENTED) A method for treating, palliating or inhibiting mycobacterial infections in a mammal by inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in said mammal, said method comprising the steps of:

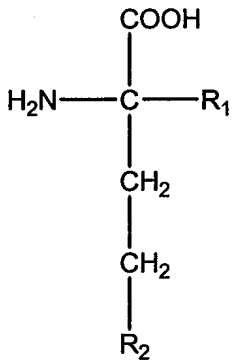
administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising alpha-methyl-L-methionine-S-sulfoximine (α-Me-MSO) or alpha-ethyl-L-methionine-S-sulfoximine (α-Et-MSO); and

inhibiting the growth of a Mycobacteria species without causing substantial toxic side effects in said mammal.

16. (PREVIOUSLY PRESENTED) The method according to claim 10 wherein said anti-mycobacterial composition is alpha-methyl-L-methionine-SR-sulfoximine or alpha-ethyl-L-methionine-SR-sulfoximine.

17. (NEW) A method of inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in a mammal, said method comprising the steps of:

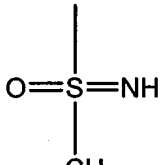
administering to a mammal a mycobacterium effective amount of a mycobacterial glutamine synthetase (MbGS) inhibitor of Formula 1;



Formula 1

wherein

R_1 = branched and straight chain alkyl groups of 1 to 8 carbons; and

R_2 =  Methyl sulfoximine; and

inhibiting said MbGS to a greater degree than mammalian glutamine synthetase, and wherein gamma-glutamylcysteine synthetase or glutathione synthesis are not substantially inhibited.

18. (NEW) The method according to claim 17 wherein R_1 comprises branched and straight-chained alkyl groups from 2 to 4 carbons.

19. (NEW) The method according to claim 17 wherein said MbGS inhibitor comprises alpha-methyl-L-methionine-S-sulfoximine or alpha-ethyl-L-methionine-S-sulfoximine.

20. (NEW) The method according to claim 19 wherein said MbGS inhibitor comprises alpha-methyl-DL-methionine-SR-sulfoximine or alpha-ethyl-DL-methionine-SR-sulfoximine

21. (NEW) The method according to claim 17 further comprising co-administering an anti-microbial effective amount of isoniazid (INH).

22. (NEW) The method according to claim 17 wherein said mammal is selected from the group consisting of humans, monkeys, cows, pigs, horses, rabbits, rodents, cats and dogs.